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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/019,009	04/26/2002	Victor B. Kley	020921-00070US	2617
20350	7590	12/22/2003	EXAMINER	
TOWNSEND AND TOWNSEND AND CREW, LLP				
TWO EMBARCADERO CENTER				
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ART UNIT			PAPER NUMBER	
2881				

DATE MAILED: 12/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/019,009

Applicant(s)

KLEY, VICTOR B.

Examiner

Kiet T. Nguyen

Art Unit

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 4, 6, 8-11, 14-16, 18, 20-23, 26, 27, 29, 31, 33-36 and 39-49 is/are pending in the application.
- 4a) Of the above claim(s) 39-49 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 6, 8-11, 14-16, 18, 20-23, 26, 27, 29, 31 and 33-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.

- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

Applicant is requested to cancel the non-elected claims 39-49.

Objected Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the system including an atomic force measurement, a tunneling current measurement, a scanning electron beam probe measurement and a scanning ion beam probe measurement as recited in claims 2, 4, 15-16, 27, 29 and 36; means for producing the electromagnetic data or secondary particle data as recited in claims 6, 18 and 31; and the probe mechanically cutting the volume of the sample and a particle beam of ions or electrons between the probe and the volume of the sample as recited in claims 11 and 23 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Rejection Under 35 U.S.C. 112, Second Paragraph

Claims 1-2, 4, 6, 8-11, 14-16, 18, 20-23, 26-27, 29, 31 and 33-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is indefinite for reciting the limitation "a subset of functionality" in line 2. What is the subset of functionality?

Claim 1 is indefinite for reciting the limitation "a probe and/or tool" in lines 3 and 8. What is the probe and/or tool?

Claim 1 is indefinite for reciting the limitation “any direction” in line 4. What is the any direction?

Claim 1 is indefinite for reciting the limitation “any element thereof” in lines 5 and 9. What is the any element thereof?

Claim 1 is indefinite for reciting the limitation “any element” in lines 5-6. What is the any element?

Claim 1 recites the limitation “the target volume” in line 8. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitation “the volumetric element of target” in line 9. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 is indefinite for reciting the limitation “any parametric ... that volume” in lines 10-11. What is the parametric representation, simultaneous parametric representation, or any element of that volume?

Claim 1 is indefinite for reciting the limitation “optionally” in lines 5 and 9. How is the second operation optionally?

Claim 1 is indefinite for reciting the limitation “or all ... said volume” in lines 14-15. What is the all of the volume, any other parameter, or making any change to said volume?

Claim 2 is indefinite for reciting the limitation “an atomic force ... ion beam probe measurement” in lines 2-4. How and/or what is the system that includes an atomic force measurement, a tunneling current measurement, a scanning electron beam probe measurement and a scanning ion beam probe measurement?

Claim 6 is indefinite for reciting the limitation "the first scan ... particle data" in lines 1-2. How does the first scan simultaneously produce electromagnetic data or secondary particle data?

Claim 8 is indefinite for reciting the limitation "and/or field and/or gradient measurement" in line 2. What is the field and/or gradient measurement?

Claim 10 is indefinite for reciting the limitation "any measurable manner" in line 2. What is the any measurable manner?

Claim 14 is indefinite for reciting the limitation "a subset of functionality" in line 2. What is the subset of functionality?

Claim 14 is indefinite for reciting the limitation "a probe and/or tool" in lines 3 and 10. What is the probe and/or tool?

Claim 14 is indefinite for reciting the limitation "any direction" in line 5. What is the any direction?

Claim 14 is indefinite for reciting the limitation "any element thereof" in lines 6 and 11. What is the any element thereof?

Claim 14 is indefinite for reciting the limitation "any element ... topography" in lines 6-8. What is the any element, property of said volume, topography? How is the performing a task related to that volume or topography?

Claim 14 recites the limitation "the target volume" in line 10. There is insufficient antecedent basis for this limitation in the claim.

Claim 14 recites the limitation "the bounding volumetric or topographic elements of the target(s) volume or topography" in lines 11-12. There is insufficient antecedent basis for this limitation in the claim.

Claim 14 is indefinite for reciting the limitation “the bounding volume ... topography” in lines 13-15. What is the bounding volume, topography, any parametric representation, simultaneous parametric representation, or any element of that volume?

Claim 14 is indefinite for reciting the limitation “optionally” in line 16. How is the second operation optionally?

Claim 14 is indefinite for reciting the limitation “or all ... said volume or topography” in lines 18-20. What is the all of the volume, any other parameter, or making any change to said volume or topography?

Claim 18 is indefinite for reciting the limitation “the first scan ... particle data” in lines 1-2. How does the first scan simultaneously produce electromagnetic data or secondary particle data?

Claim 20 is indefinite for reciting the limitation “and/or field and/or gradient measurement” in line 2. What is the field and/or gradient measurement?

Claim 22 is indefinite for reciting the limitation “any measurable manner” in line 2. What is the any measurable manner?

Claim 26 is indefinite for reciting the limitation “a subset of functionality” in line 2. What is the subset of functionality?

Claim 26 is indefinite for reciting the limitation “a probe and/or tool” in lines 3 and 10. What is the probe and/or tool?

Claim 26 is indefinite for reciting the limitation “any direction” in line 5. What is the any direction?

Claim 26 is indefinite for reciting the limitation "any element thereof" in lines 6 and 11.

What is the any element thereof?

Claim 26 is indefinite for reciting the limitation "any element ... topography" in lines 6-8.

What is the any element, property of said volume, topography? How is the performing a task related to that volume or topography?

Claim 26 is indefinite for reciting the limitation "regions around/on or within" in line 10.

What are the regions around/on or within?

Claim 26 recites the limitation "the target volume" in line 11. There is insufficient antecedent basis for this limitation in the claim.

Claim 26 recites the limitation "the target volume ... that volume or topography" in lines 11-15. There is insufficient antecedent basis for this limitation in the claim.

Claim 26 is indefinite for reciting the limitation "the bounding volume ... topography" in lines 13-15. What is the bounding volume, topography, any parametric representation, simultaneous parametric representation, or any element of that volume?

Claim 26 is indefinite for reciting the limitation "or all ... said volume or topography" in lines 16-18. What is the all of the volume, any other parameter, or making any change to said volume or topography?

Claim 29 recites the limitation "the first scan" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 31 is indefinite for reciting the limitation "the first scan ... particle data" in lines 1-2. How does the first scan simultaneously produce electromagnetic data or secondary particle data?

Claim 33 recites the limitation "the second scan" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 33 is indefinite for reciting the limitation "and/or field and/or gradient measurement" in line 2. What is the field and/or gradient measurement?

Claim 34 recites the limitation "the first scan" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 35 recites the limitation "the second scan" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 35 is indefinite for reciting the limitation "any measurable manner" in line 2. What is the any measurable manner?

Claim 36 recites the limitation "the modification" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Rejection Under 35 U.S.C. 112, First Paragraph

Claims 1-2, 4, 6, 8-11, 14-16, 18, 20-23, 26-27, 29, 31 and 33-36 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification is unclearly for reciting the limitations "the sample volume", "the target volume" or "the volume of target" as recited in claim 1, 14 and 26; "the probe mechanically cutting the volume of the sample" as recited in claims 11, 23 and 36. Therefore, the examiner don't understand what is the sample volume, the target volume or the volume of target? how is the sample or the target that has the volume? How is the probe that scans the sample to have the

volume data, the volumetric element or the parameter of the volume of the sample? How is the probe used to cut the volume of the sample?

Additional explanations are needed if applicant insists on including these features in the claims 1, 14 and 26 without the insertion of new matter.

Rejection Under 35 U.S.C. 102(b)

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 4, 6, 8-11, 14-16, 18, 20-23, 26-27, 29, 31 and 33-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Elings et al. (5,418,363) et al.

Claims 1-2, 4, 6, 8-11, 14-16, 18, 20-23, 26-27, 29, 31 and 33-36, as the best understood by the meaning of 112, 1st and 2nd, and the drawing(s) above, are rejected as:

Elings et al. (5,418,363) et al. disclose, in figs. 1-7, a scanning probe microscope apparatus. The apparatus which is an atomic force microscope and/or a scanning tunneling microscope, or any scanning probe microscope (see col. 5, line 60 to col. 6, line 2) and includes a probe 100 for producing a magnetic force, electric force, electromagnetic force and/or gradient force to measure a sample 102 in a 3-dimensional profile (a volume of a sample, see col. 13, lines 12-15) and providing a first scan to obtain and store topographical information and a second scan to produce an image based on the information of the first scan (see col. 3, line 51 to col. 4, line 45); a position control 108 for controlling a Z position of the probe 100; and an XY positioner 112 for moving the sample 102 in 2-dimensional directions.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1) Bourgoïn et al. disclose a scan probe microscope; and

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2) Xiang et al. disclose a scan electro-magnetic probe microscope.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner *Kiet T. Nguyen* whose telephone number is (703) 308-4855.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0956. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9318.

K. T.N/Primary

12/13/03



KIET T. NGUYEN
PRIMARY EXAMINER